

WHAT IS CLAIMED IS:

1. A method for controlling and monitoring a technical installation by means of a universal mobile control and monitoring module, wherein the technical installation is assigned to at least one regional control sub-area located within a control area, the method comprising:

determining a current position of the universal mobile control and monitoring module by means of positioning signals;

assigning the universal mobile control and monitoring module to the technical installation, if the current position of the universal mobile control and monitoring module lies within the regional sub-control area of the technical installation; and

loading human-machine-interface (HMI) data of the technical installation into the assigned universal mobile control and monitoring module.

2. The method as claimed in claim 1, further comprising loading HMI display data into the assigned universal mobile control and monitoring module.

3. The method as claimed in claim 2, wherein the HMI display data comprises at least process values of the technical installation.

4. The method as claimed in claim 3, wherein the process values comprise actual values and alarm messages of technical apparatuses of the technical installation.

5. The method as claimed in claim 1, further comprising loading HMI initialization data into the assigned universal mobile control and monitoring module.

6. The method as claimed in claim 5, wherein the HMI initialization data at least parameterizes a display of the HMI data of the technical installation on the assigned universal mobile control and monitoring module.

7. The method as claimed in claim 1, further comprising:
updating the HMI data in the assigned universal mobile control and monitoring module; and
uploading the updated HMI data into the technical installation.

8. The method as claimed in claim 7, wherein the updated HMI data comprises HMI input data.

9. The method as claimed in claim 7, wherein the uploaded HMI data comprises specified values for the technical installation.

10. The method as claimed in claim 9, wherein the specified values comprise desired values and default values for technical apparatuses of the technical installation.

11. The method as claimed in 1, further comprising:

transmitting the HMI data as a function of the current position of the assigned universal mobile control and monitoring module in the regional control sub-area of the assigned technical installation.

12. The method as claimed in claim 11, wherein the HMI data is transmitted as a function of a distance of the assigned universal mobile control and monitoring module from the technical installation.

13. The method as claimed in claim 1, further comprising utilizing a mobile telephone as the universal mobile control and monitoring module.

14. The method as claimed in claim 1, further comprising utilizing a personal digital assistant (PDA) as the universal mobile control and monitoring module.

15. A human-machine-interface (HMI) system, comprising:

a technical installation;

at least one universal mobile control and monitoring module configured to control and monitor the technical installation; and

at least one HMI data module assigned to the technical installation, the HMI data module comprising:

a managing device configured to manage HMI data of the technical installation;

a managing-and-assigning device configured to manage a regional control sub-area of the technical installation and configured to assign the universal mobile control and monitoring module to the technical installation, if a current position of the universal mobile control and monitoring module lies within the regional sub-control area of the technical installation; and

a loading device configured to load the HMI data of the technical installation into the assigned universal mobile control and monitoring module.

16. The HMI system as claimed in claim 15, wherein the managing device is configured to cyclically manage the HMI data of the technical installation.

17. The HMI system as claimed in claim 15, wherein the HMI data module is integrated into the technical installation.

18. The HMI system as claimed in claim 15, further comprising a data bus configured to couple the HMI data module to the technical installation.

19. The HMI system as claimed in claim 15, wherein the loading device is configured to transmit the HMI data in contactless manner to the assigned universal mobile control and monitoring module.

20. The HMI system as claimed in claim 15, wherein the HMI data module further comprises a receiver configured to receive at least transmission messages from the assigned universal mobile control and monitoring module, and wherein the transmission messages comprise at least HMI input data for updating the HMI data of the technical installation.

21. The HMI system as claimed in claim 15, wherein the universal mobile control and monitoring module comprises a position determination device configured to analyze positioning signals that are provided by a satellite system, and configured to transmit the current position of the universal mobile control and monitoring module to the managing-and-assigning device of the HMI data module.

22. The HMI system as claimed in claim 21, wherein the satellite system comprises a GPS satellite system.

23. The HMI system as claimed in claim 15, wherein the universal mobile control and monitoring module comprises a position determination device configured to analyze short-range fields, which are received in the regional control sub-area as positioning signals, and configured to transmit the current position of the universal mobile control and monitoring module to the managing-and-assigning device of the HMI data module.

24. The HMI system as claimed in claim 23, wherein the short-range fields are based on at least one of a Bluetooth standard and an Infrared standard.

25. A human-machine-interface (HMI) system, comprising:

- at least one technical installation;
- at least one universal mobile control and monitoring module configured to control and monitor the technical installation;
- a central server, comprising:
 - a managing device configured to manage HMI data of the technical installation; and
 - a managing-and-assigning device configured to manage a regional control sub-area of the technical installation and configured to assign the universal mobile control and monitoring module to the technical installation, if a current position of the universal mobile control and monitoring module lies within the regional sub-control area of the technical installation; and
- at least one HMI communications module assigned to a technical installation, the HMI communications module comprising:
 - a network terminal configured to connect the HMI communications module to the central server; and
 - a loading device configured to load at least the HMI data of the technical installation into the assigned universal mobile control and monitoring module.

26. The HMI system as claimed in claim 25, wherein the managing device is configured to cyclically manage the HMI data of the technical installation.

27. The HMI system as claimed in claim 25, wherein the HMI communications module further comprises a receiver configured to receive at least transmission messages from the assigned universal mobile control and monitoring module and configured to forward the transmission messages to the managing device of the central server, wherein the transmission messages comprise HMI input data for the technical installation.

28. The HMI system as claimed in claim 25,
wherein the HMI communications module further comprises a receiver; and
wherein the universal mobile control and monitoring module comprises a position determination device configured to analyze positioning signals that are provided by a satellite system, and configured to transmit the current position of the universal mobile control and monitoring module to the receiver of the HMI communications module so as to forward the current position to the managing-and-assigning device of the central server.

29. The HMI system as claimed in claim 28, wherein the satellite system comprises a GPS satellite system.

30. The HMI system as claimed in claim 25, wherein the universal mobile control and monitoring module comprises a position determination device configured to analyze short-range fields, which are received in the regional control sub-area as positioning signals, and configured to transmit the current position of the universal mobile control and monitoring module to the managing-and-assigning device of the central server.

31. The HMI system as claimed in claim 30, wherein the short-range fields are based on at least one of a Bluetooth standard and an Infrared standard.

32. The HMI system as claimed in claim 25, wherein the HMI communications module further comprises a receiver configured to receive and analyze emissions of the universal mobile control and monitoring module as positioning signals so as to determine the current position of the universal mobile control and monitoring module.

33. The HMI system as claimed in claim 25, wherein the HMI communications module comprises a receiver configured to receive emissions of the universal mobile control and monitoring module as positioning signals and configured to transmit the positioning signals to the central server.

34. The HMI system as claimed in claim 32, wherein the receiver comprises GSM transmitting and receiving devices.

35. The HMI system as claimed in claim 32, wherein the receiver comprises GRPS transmitting and receiving devices.

36. The HMI system as claimed in claim 32, wherein the receiver comprises WLAN transmitting and receiving devices.